C L A I M S

1. Method for detecting and localizing a fire and/or the origin of a fire in one or more monitored areas $(R_1, R_2, R_3, ..., R_n)$ comprising the following process steps:

   a) extracting air samples (6) in each case representative of the room air of the respective individual monitored areas $(R_1, ..., R_n)$ from said individual monitored areas $(R_1, ..., R_n)$ through a common suction pipe system (3);

   b) detecting at least one fire parameter in the air samples (6) suctioned through suction pipe system (3) with at least one sensor (7) for detecting fire parameters;

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   the following process steps:

   c) blowing out the extracted air samples (6) within suction pipe system (3) by means of a blower or suctioning/blower device (8);

   d) re-extracting air samples (6) from the individual monitored areas $(R_1, ..., R_n)$ through suction pipe system (3) at least until the at least one sensor (7) re-detects a fire parameter in air samples (6);

   e) evaluating the time elapsed before the re-detecting of the fire parameter in the re-extracted air samples from process step d) in order to localize a fire or the site of an imminent fire in one of the plurality of monitored areas $(R_1, ..., R_n)$; and.

   f) emitting a signal indicating the development and/or presence of a fire in one or more of monitored areas $(R_1, ..., R_n)$, wherein the signal contains further information for a precise localization of the fire in said one or more monitored areas $(R_1, ..., R_n)$.

2. Method in accordance with claim 1, further comprising the following process steps subsequent process step a):

    a1)   determining the flow rate to air samples (6) in suction pipe system (3) during the continuous extraction of respective air samples (6) from individual monitored areas $(R_1,...,R_n)$; and

    a2)   calculating the time necessary to fully blow out air samples (6) located in suction pipe system (3).

3. Method in accordance with claim 1 or 2,

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process step c) comprises the process step of determining the flow rate during said blowing out in order to calculate the time necessary to fully blow out the air samples (6) located within suction pipe system (3).

4. Method in accordance with one of the preceding claims, further comprising the following process steps subsequent process step d):

    d1)   determining the flow rate to air samples (6) in suction pipe system (3) during the renewed extraction of respective air samples (6) from individual monitored areas $(R_1,...,R_n)$; and

    ·d2)   calculating the transit time of respective air samples (6) representative of the room air of the individual monitored areas $(R_1,...,R_n)$ during the renewed extraction of respective air samples (6) from individual monitored areas $(R_1,...,R_n)$.

5. Method in accordance with one of the preceding claims,

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    the air sampling performed in process steps a) and d) is realized by means
    of a suction device (5), wherein the subsequent re-extraction of air samples
    performed in process step d) ensues with a suction line which is reduced in
    comparison to the suction line used in process step a).

6. Method in accordance with one of the preceding claims further including an
    auto-adjusting procedure comprising the following process steps:

    i)   artificially producing a fire parameter at suction opening (4) at the
            most distant monitored area (R_n) from the at least one sensor (7)
            over the entire time of the auto-adjusting procedure;

    ii)   suctioning air samples (6) from individual monitored areas (R_1,...,
            R_n) through common suction pipe system (3) until the at least one
            sensor (7) detects the artificially-generated fire parameter in
            extracted air samples (6);   •

    iii)   blowing out extracted air samples (6) located in suction pipe
            system (3) by means of a blowing or suctioning/blowing device (8);

    iv)   renewed extraction of air samples (6) from individual monitored areas
            (R_1,...,R_n) through suction pipe system (3) at least until sensor (7) re-
            detects an artificially-generated fire parameter in air samples (6);

    v)   evaluating the transit time elapsed until the re-detection of the
            artificially-generated fire parameter in the re-extracted air samples
            performed in process step iv) in order to determine the maximum
            transit time for the suction pipe system;

    vi)   calculating the transit times for respective air samples (6) represen-
            tative of the room air of individual monitored areas (R_1,...,R_n) from
            individual monitored areas (R_1,...,R_n) based on the maximum transit

times determined in process step v) and the configuration of suction
pipe system (3), in particular the distance between suction openings
(4), the diameter to the suction pipe system and the diameter to
suction openings (4); and

vii) storing the calculated transit times for respective air samples (6) in
a table.

7. Method in accordance with claim 6, wherein the auto-adjusting procedure
according to process step vii) further comprises the following process step:

viii) utilizing a correcting function on the calculated transit times stored
in the table in order to update the transit time values occurring for
the individual monitored areas $(R_1, \ldots, R_n)$.

8. Method in accordance with claim 6 or 7, wherein the analysis of the transit
time occurring in the event of a fire is made by comparing the occurring
transit time with the respectively calculated transit times saved to the table
in the auto-adjusting procedure.

9. Method in accordance with one of the preceding claims, wherein the
analysis of the transit time occurring is made by comparing the occurring
transit time with the respective transit times calculated theoretically for
individual monitored areas $(R_1, \ldots, R_n)$ in dependence on at least one of the
following parameters: the length of the respective sections of the suction pipe
system (3) between the at least one sensor (7) and the suction openings (4) of
the respectively monitored areas $(R_1, \ldots, R_n)$ disposed in suction pipe system
(3); the effective flow cross-section of suction pipe system (3) and/or the
respective sections of suction pipe system (3) between the at least one sensor
(7) and the respective monitored areas $(R_1, \ldots, R_n)$; and the flow rate of the air
samples (6) in suction pipe system (3) and/or in the respective sections of

suction pipe system (3) between the at least one sensor (7) and the suction openings (4) of the respective monitored areas ($R_1, \ldots, R_n$).

10. Fire detection device for detecting and localizing a fire and/or the origin of a fire in one or more monitored areas ($R_1, \ldots, R_n$) comprising a suction pipe system (3) connecting said monitored areas ($R_1, \ldots, R_n$) which communicates with each individual monitored area ($R_1, \ldots, R_n$) by means of at least one suction opening (4), a suction device (5) for extracting representative air samples (6) from individual monitored areas ($R_1, \ldots, R_n$) by means of suction pipe system (3) and suction openings (4), and at least one sensor (7) for detecting at least one fire parameter in the air samples (6) suctioned through suction pipe system (3),

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a blowing device (8) for blowing out the air samples (6) sucked into suction pipe system (3) when the at least one sensor (7) detects at least one fire parameter in said extracted air samples (6), and by at least one indicator element which identifies the site of a fire in one of monitored areas ($R_1, \ldots, R_n$) and/or by a communication device which transmits information on the development and/or presence of a fire in one or more of said monitored areas and on the precise location of the fire in said one or more monitored areas to a location remote of the device.

11. Device in accordance with claim 10,

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a controller (9) for a time-coordinated controlling of suction device (5) and blowing device (8) in agreement with a signal emitted by the at least one sensor (7) when said at least one sensor (7) detects at least one fire parameter in air samples (6).

12. Device in accordance with claim 10 or 11,

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    a memory means for storing the transit time values.

13. Device in accordance with one of claims 10 to 12,

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    at least one smoke generator arranged near a suction opening (4) and artificially generating a fire parameter for setting and testing the fire detection device.

14. Device in accordance with one of claims 10 to 13,

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    at least one sensor (12) for measuring the flow rate of air samples (6) in the suction pipe system.

15. Device in accordance with one of claims 10 to 14,

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    a processor (10) for evaluating a signal emitted by sensor (7) when said at least one sensor (7) detects a fire parameter in an air sample (6) and a control signal emitted by controller (9) to suction device (5) and/or blowing device (8).

16. Device in accordance with one of claims 10 to 15,

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    the diameters and/or the cross-sectional shape to individual suction openings (4) is configured contingent upon respective monitored areas (R_1,...,R_n).

17. Device in accordance with one of claims 10 to 16,

    characterized in that

    the diameters and/or the cross-sectional shape to the individual sections of suction pipe system (3) between the at least one sensor (7) and the respective monitored areas $(R_1,...,R_n)$ is configured contingent upon the respective monitored areas $(R_1,...,R_n)$.

18. Device in accordance with one of claims 10 to 17,

    characterized in that

    suction device (5) and blowing device (8) are configured together as one blower (11) which changes the direction it conveys air in response to a control signal from controller (9).

19. Device in accordance with claim 18,

    characterized in that

    blower (11) is a reversing-rotation fan.

20. Device in accordance with claim 18,

    characterized in that

    blower (11) is a fan having ventilation flaps.

21. Application of the device according to one of claims 10 to 20 as a fire detection component of a fire extinguishing system for activating the introduction of a fire extinguishing agent in one of monitored areas $(R_1,...,R_n)$.